Navy Concept Development & Experimentation

Expeditionary Power Projection

From Concepts to Doctrine/TTP Through Experimentation

## Major Initiatives:

- **Information and Knowledge Advantage**
  - Battlespace awareness: Expeditionary Sensor Grid
  - Sea-based Joint C2
  - Information Operations
- **Assured Access**
  - Distributed forces, autonomous sensors/vehicles
  - Projecting Defense: Theater Air & Missile Defense
- **Effects Based Operations**
  - Effects Based Planning
  - Future Naval Fires
- **Forward Sea Based Forces**
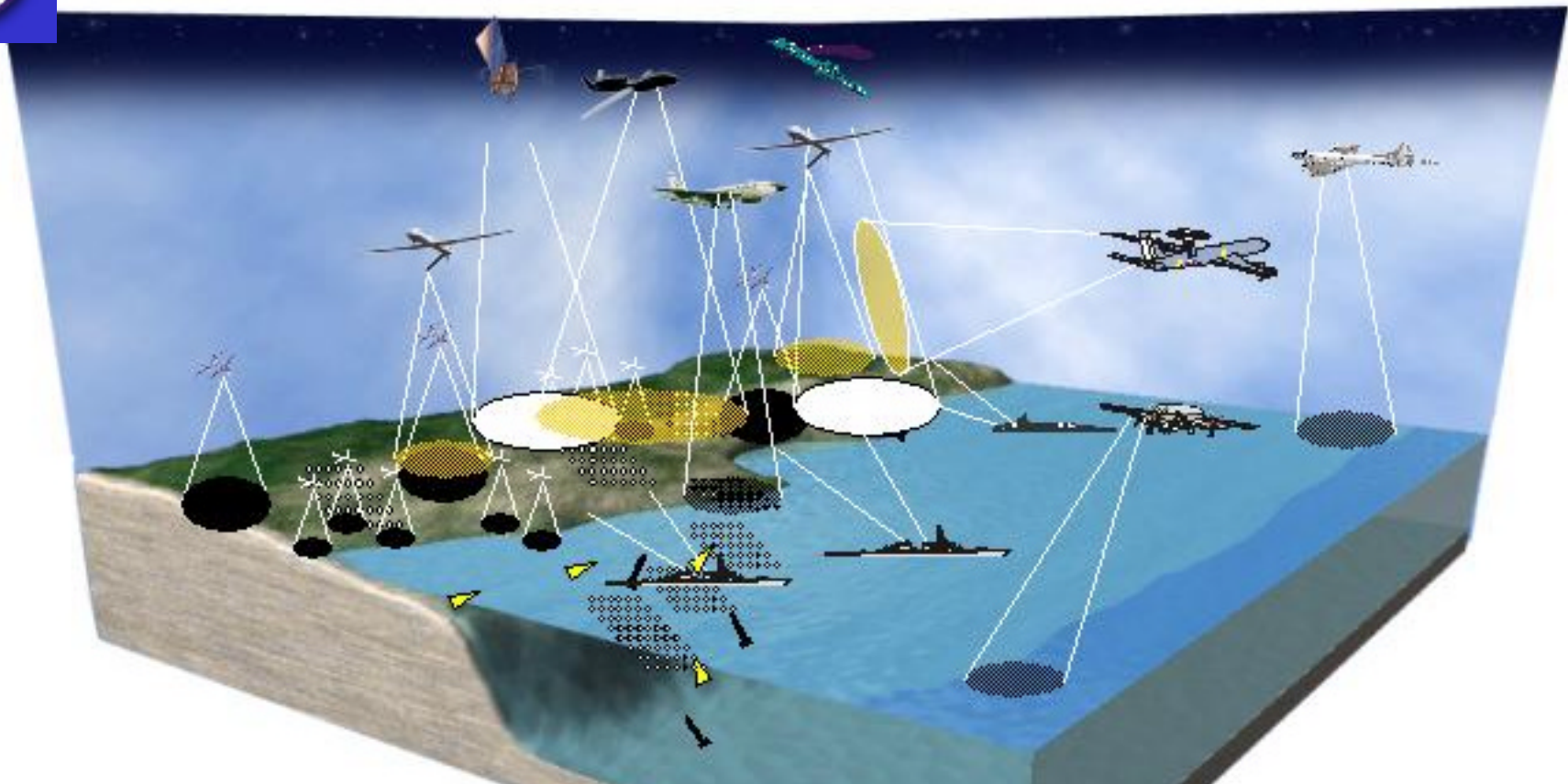 - Joint High Speed Vessel
- **Homeland Security**

Fielding Required Capabilities

Co-Evolution
Concepts
Doctrine
Organization
Technology
Training
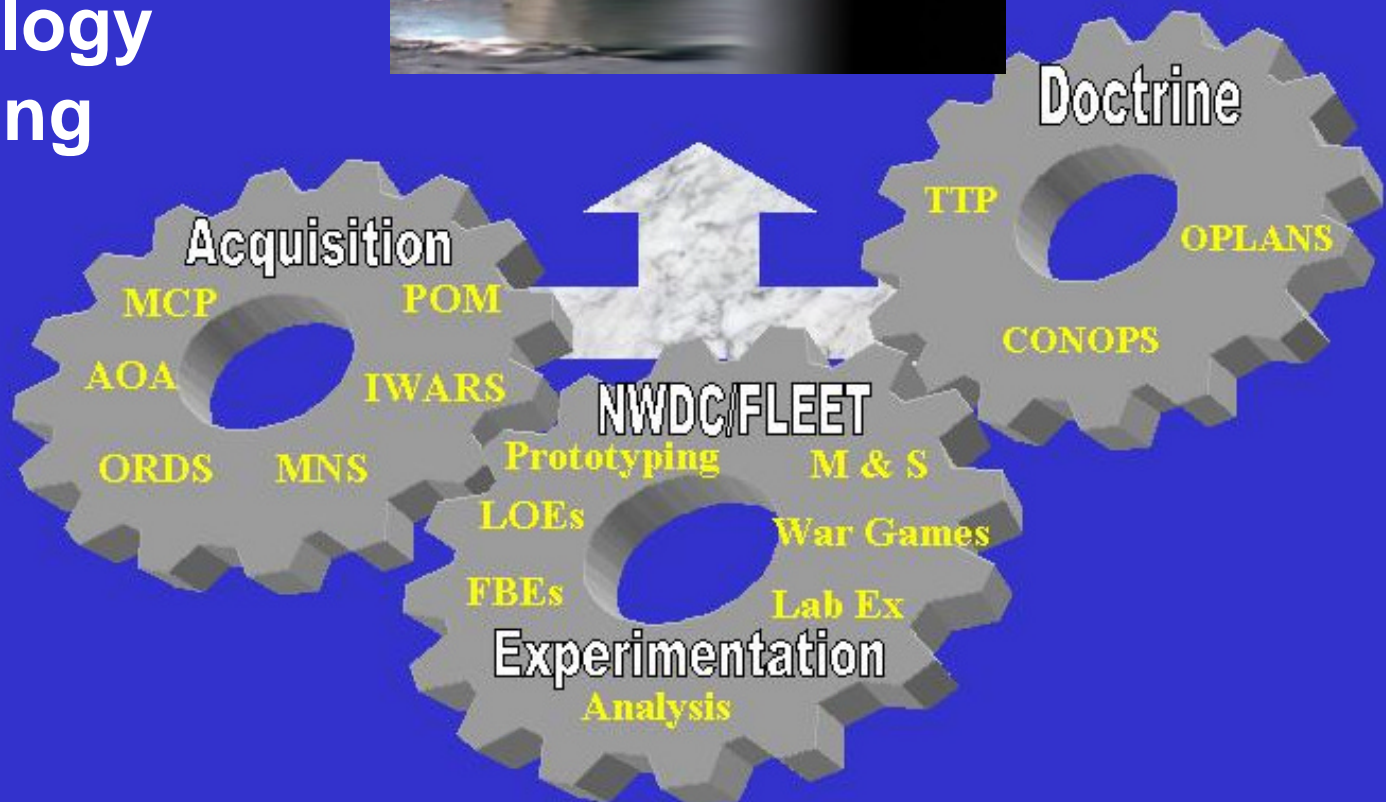
Expeditionary Sensor Grid

Characteristics

|			
Time Deployed	When Committed	Cost	Low
Sensor Coverage	Real Time	Network	Fully Netted
	High Interest Areas	Stability	Endurance – Hours to Months
Numbers	Many (100's – 1,000's)		Limited Vulnerability
			Counters CCD

FORCEnet Definition

FORCEnet is the architecture and building blocks of sensors, networks, decision aids, weapons, warriors, and supporting systems integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land.

By exploiting existing and emerging technologies, FORCEnet enables dispersed human decision-makers to leverage military capabilities to achieve dominance across the entire mission landscape with joint, allied, and coalition partners.
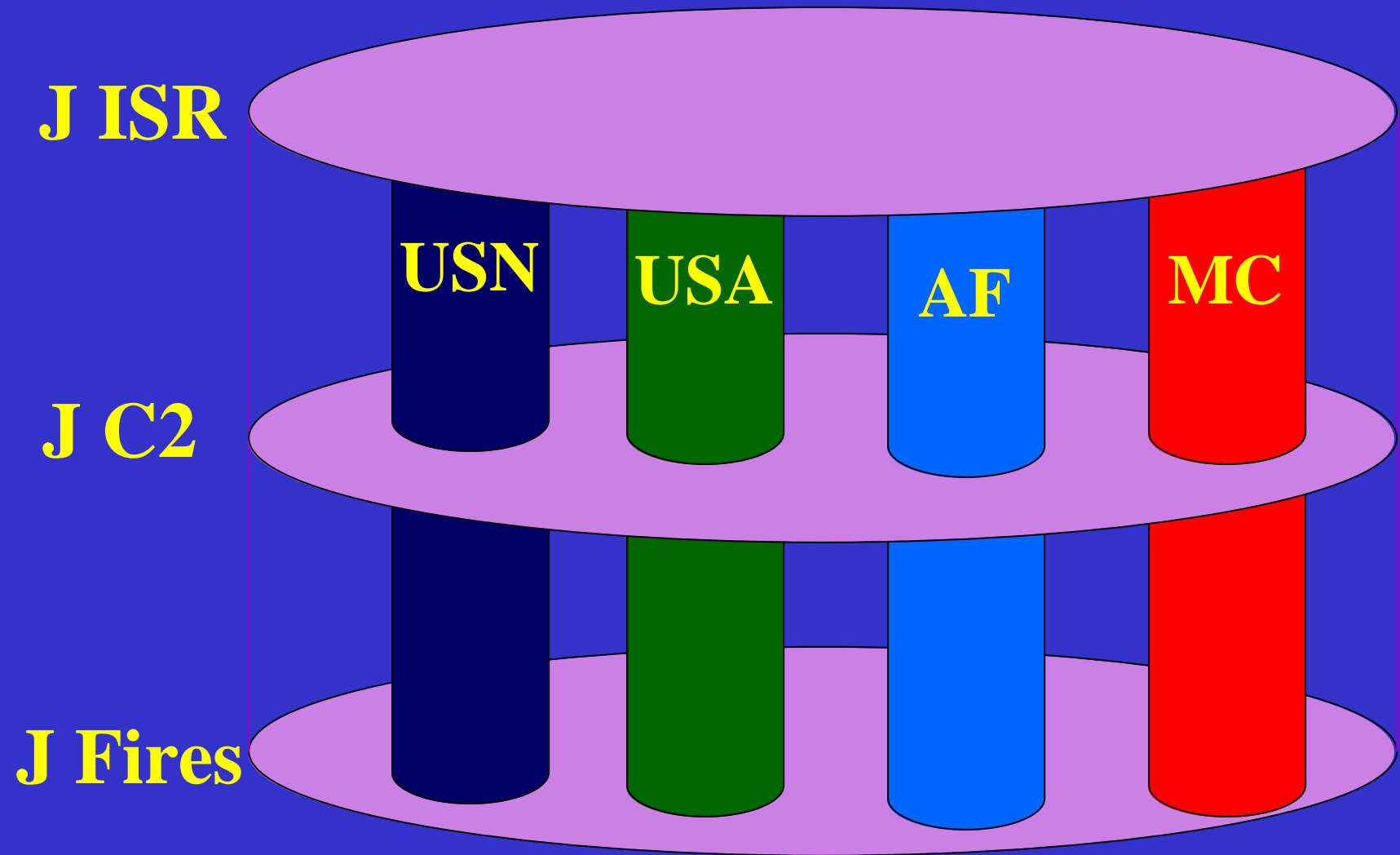
FORCEnet Architecture
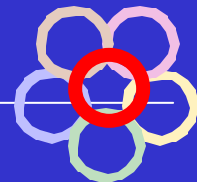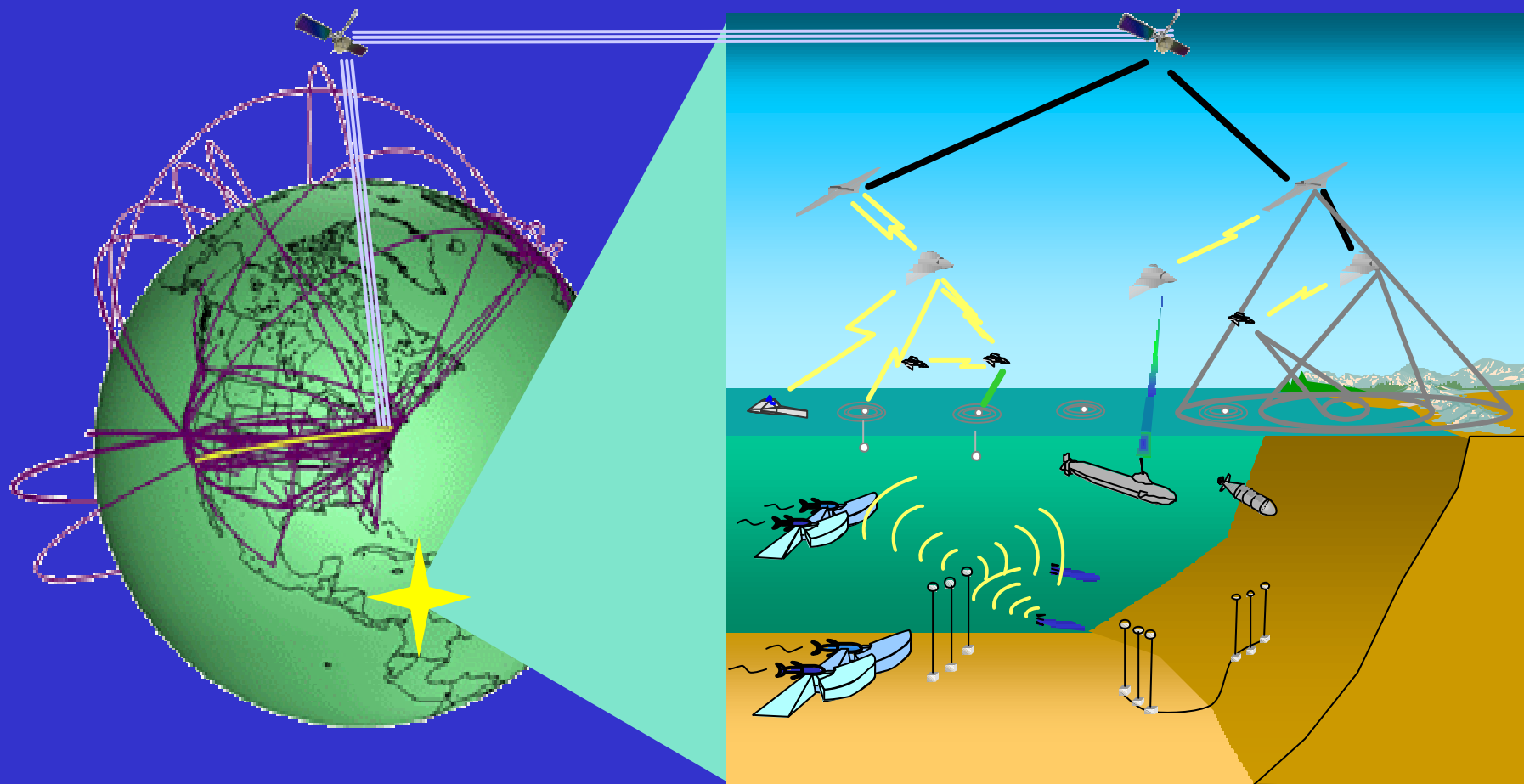
Puts the WARFARE in Net Centric Warfare!

Operationalizing Network Centric Warfare

Near Term Joint Sensor to Shooter Network

J ISR

J C2

J Fires

USN USA AF MC

Today's Direction – Naval Fires Network
The Navy Contribution to Joint Fires

	USN	**USA**	**USMC**	**USAF**
C2	• GCCS-M	• GCCS-A	• GCCS-	• TBMCS
DCGS	• TES-N • JSIPS-N	•TES-A • JSWS	•TEG • JSWS	• AOC Systems (with TES middleware)
Fires	• LAWS • NFCS	• ADOCS • AFATDS	• ADOCS • AFATDS	• ADOCS • AODA

NETWORK

Caveat: Systems are illustrative. Components Of NFN TBD

Future Naval Fires – the Objective

A Revolution in Fires …From the Sea
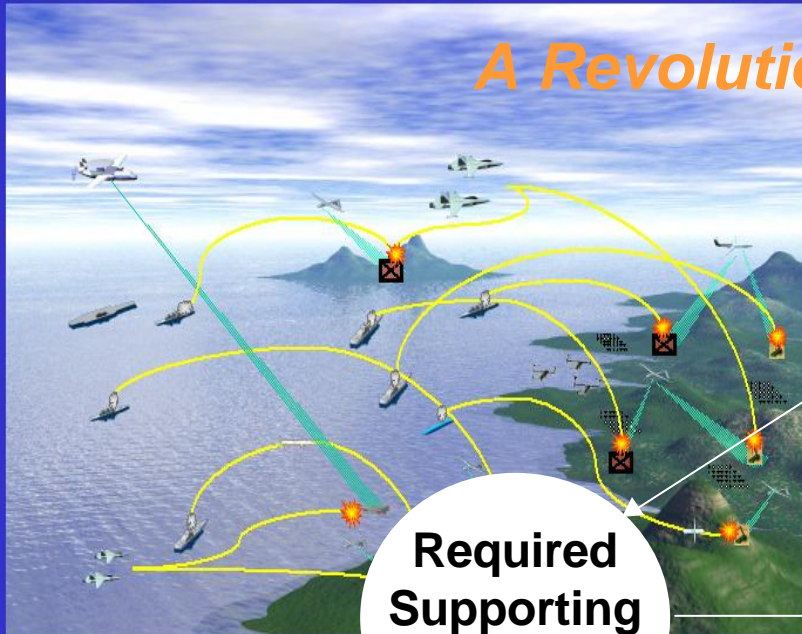
Simultaneous Operations

- Long range volume fires
- Precision fires
- Non-kinetic fires
- Sea-Based
- 4D deconfliction

Required Supporting Capabilities

Future Naval Fires

Fully Netted Digital Fires Network

- Replenishment
- Training

    - Sensor capabilities
    - Networked target ID
    - Sensor management
    - Sensor networking

Organic Tactical Sensing

6/22/01

UZBE… KYRGYZSTAN
…HENISTAN TAJIKISTAN CHINA
Ashgabat Dushanbe
Mazar-i-Sharif
Herat Kabul
Peshawar Kashmir
AFGHANISTAN Islamabad
Kandahar PAKISTAN
Zahedan Quetta INDIA

Joint High Speed Vessel
Enhancing Total Force Capability

- **High Speed**
  - **Enhanced responsiveness**
- **High Payload/Small Crew**
  - **More combat power per crew and tonnage**
- **Shallow Draft**
  - **Increased access (x5)**
  - **Austere Port VS Airfield or Over the Shore**
- **Flexible – Scalable**
  - **Supports the Joint Force**
  - **Applies to a Range of Missions**
- **Balanced Fleet**
  - **Cost savings**
  - **Improves mission match**

Enhanced Maneuver from the Sea

So What are the Issues & Requirements?

- **Sensors…not enough…more needed**
  - **Plug and play into grid where fusion is seamless**
- **Networks designed with capacity, connectivity and scalability**
- **Data to Info to Actionable Knowledge**
  - **Too much info…too little knowledge**
- **Platform to Mission Mismatch? – Is there need for low-end re-configurable single-mission platforms?**
  - **In addition to High-end multi-mission platforms**
- **<u>Rapid</u> acquisition requires <u>more rapid</u> Fleet support in form of Doctrine, TTPs, training**